

Social aspects of venereal disease

II. Relationship of personality to other sociological determinants of venereal disease

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With increasing recognition of venereal infection as a behavioural disease, considerable interest has been focused on the relationship of various psychosocial parameters to these diseases. Eysenck's (Eysenck and Eysenck, 1964) refinement of the personality inventory has provided a useful tool for obtaining quantitative indicators of one such parameter—personality.

The personality of venereal disease patients has been assessed by this inventory (Wells, 1969, 1970) and more recently the personality inventory was included in a more comprehensive sociological assessment of this group of patients (Hart, 1973).

The present paper analyses the relationship of personality to the other sociological parameters considered in this last study. In particular, it was designed to investigate the hypothesis that certain sociological factors often associated with venereal disease may merely be other manifestations of a particular personality type, which renders a person more susceptible to exposure to venereal infection. This hypothesis is in line with the theory of Eysenck (1972): 'extroversion constitutes a major dimension of personality which is positively related to criminal and generally anti-social behaviour'.

In addition, it was considered that the determination of personality scores for a wide variety of sociological variables may give useful indicators for further application of the personality inventory in other behavioural studies.

Method

The data analysed were taken solely from the control series described in Part I (see p. 542).

Differences in mean values of extroversion (E) or neuroticism (N) were considered to be significant if they were greater than twice the standard error of the difference.

Results

(1) 108 (52 per cent.) of those analysed were national servicemen and 98 (48 per cent.) were regular soldiers.

(2) 134 (65 per cent.) of the group had intercourse with prostitutes in Vietnam. Table I in Part I (p. 543) outlines the sociological factors associated with intercourse in this environment.

(3) Table I summarizes values of extroversion (E) and neuroticism (N) for groups divided by marital status, rank, indulgence in intercourse in Vietnam (ic and no-ic), and terms of enlistment into the army. Private soldiers had significantly higher extroversion scores (E = 13.30) than NCOs (E = 11.68), and those having intercourse were more extroverted (E = 13.27) than those abstaining (E = 11.63). Conscripted abstainers tended to be more extroverted than volunteer abstainers (E = 12.20 to 10.67), but there was no difference in extroversion between the two intercourse groups. The volunteer intercourse group was markedly more neurotic than the conscript group (N = 10.30 to 8.28).

(4) Table II summarizes the values of E and N for groups subdivided by age, length of service in Vietnam, and social status. Those older than 25 years were significantly more introverted (E = 10.72) than the younger groups (E = 13.08 and 12.40), and those younger than 21 years tended to be more neurotic (N = 10.50) than the older groups (N = 8.81 and 9.16). Soldiers who had been in Vietnam for more than 6 months tended to have lower scores for both extroversion (E = 12.19) and neuroticism (N = 8.62) than other groups (E = 13.23; N = 9.59), but these differences were not significant because of the small numbers involved.

The lower social strata (Groups 5 to 7: Congalton, 1969) scored higher for neuroticism (N = 9.41) than the higher strata (N = 8.10).

(5) Table III summarizes the values of E and N for

TABLE I *Values of E and N for groups divided by marital status, rank, indulgence in intercourse in Vietnam, and terms of enlistment into the army*

Parameter		Values of E		Values of N		No. of Cases
		Mean	S.E.	Mean	S.E.	
Marital status	Married	12.17	0.55	9.38	0.64	58
	Single	11.95	0.32	9.00	0.39	148
Rank	Private	13.30	0.33	9.13	0.42	131
	NCO	11.68	0.47	9.04	0.53	75
Intercourse	Total	13.27	0.36	9.35	0.42	134
	Yes	11.63	0.47	8.55	0.56	72
	Conscript	13.57	0.49	8.28	0.53	63
	No	12.20	0.58	8.26	0.67	45
	Volunteer	13.00	0.47	10.30	0.61	71
	No	10.67	0.73	9.22	0.89	27
Total		12.70	0.29	9.10	0.52	206

TABLE II *Values of E and N for groups subdivided by age, length of service in Vietnam, and socioeconomic status*

Parameter		Values of E		Values of N		No. of Cases
		Mean	S.E.	Mean	S.E.	
Age (yrs)	Under 21	12.40	0.68	10.50	0.88	30
	21-25	13.08	0.31	8.81	0.38	151
	Over 25	10.72	0.86	9.16	0.97	25
Time in Vietnam (mths)	Under 3	13.15	0.58	9.50	0.68	41
	3-6	13.23	0.54	9.59	0.61	65
	Over 6	12.19	0.38	8.62	0.47	100
Socio-economic status	1-4	12.88	0.65	8.10	0.65	49
	5-7	12.66	0.30	9.41	0.38	157

TABLE III *Values of E and N for groups subdivided by aspects of the parental home*

Parental home		Values of E		Values of N		No. of cases
		Mean	S.E.	Mean	S.E.	
Parents	Happily married	12.86	0.32	9.03	0.38	146
	Unhappy or disrupted	12.46	0.72	8.18	1.02	28
	Widowed or deceased	12.25	0.76	10.19	0.85	32
Family size	1 or 2	12.45	0.51	8.09	0.68	44
	3 or 4	12.75	0.38	9.17	0.47	109
	5 or more	12.66	0.60	9.55	0.62	53
Birth order	1	12.29	0.40	8.52	0.49	89
	2	12.67	0.56	9.78	0.69	55
	3	13.30	0.79	9.30	0.75	30
	Other	13.28	0.66	9.34	0.89	32

groups subdivided according to aspects of the parental home.

There was a tendency to increasing neuroticism with increasing family size, those from families of more than four children being the most neurotic ($N = 9.55$) and those from families of one or two children the least neurotic ($N = 8.09$). There were no marked trends with birth order.

(6) Table IV (overleaf) summarizes the findings related to alcohol intake, education, and belief in the curability of venereal disease.

There is a marked increase in extroversion with increasing alcohol consumption, teetotalers and social drinkers having the lowest scores ($E = 11.80$, 11.72) and very heavy drinkers the highest ($E = 14.96$). There was a similar trend for neuroticism,

TABLE IV *Values of E and N for groups subdivided by alcohol intake, education, and belief in the curability of venereal disease*

Parameter		Values of E		Values of N		No. of cases
		Mean	S.E.	Mean	S.E.	
Alcohol intake	Teetotaller	11.80	1.80	5.80	2.01	5
	Social drinker	11.72	0.43	8.16	0.55	80
	Regular	12.81	0.69	9.76	0.50	76
	Heavy	14.26	0.84	10.00	1.26	19
	Very heavy	14.96	0.64	9.54	0.85	26
Education	Secondary					
	Less than 3 yrs	12.89	0.39	10.25	0.46	111
	At least 3 yrs	12.46	0.43	7.96	0.47	78
	Higher	11.59	0.81	6.65	0.99	17
Belief in curability of VD	Always	13.00	0.82	9.00	1.19	12
	Usually	12.80	0.32	8.76	0.36	167
	Often incurable	12.00	0.64	10.75	0.94	27

but this was not so marked and did not continue with higher intake of alcohol.

There was a clear distinction, however, between the scores for teetotallers and social drinkers ($N = 5.80, 8.16$) and those for heavier drinkers ($N = 9.76, 10.00, 9.54$).

Similarly, a marked consistent gradation occurred with education. Higher education was associated with the lowest scores ($E = 11.59, N = 6.65$) and primary or minimal secondary education with the highest scores ($E = 12.89, N = 10.25$). These differences were significant for neuroticism but not for extroversion.

There was a tendency to increased neuroticism ($N = 10.75$ to 8.67 and 9.00) among those who believed VD was often incurable, but this was not statistically significant.

(7) Table V summarizes the E and N findings related to religion.

There were no differences for extroversion or neuroticism among those having intercourse, but among those who abstained from intercourse those with serious religious beliefs scored lower for extroversion ($E = 10.54$) than those without serious beliefs ($E = 12.22$).

(8) Table VI shows the findings related to civil and military offences.

Civil arrests were associated with high extroversion and neuroticism scores ($E = 14.10; N = 10.37$ compared with $E = 12.27; N = 8.70$). Those with more than five army charges scored highly for extroversion ($E = 15.00$) compared with other groups ($E = 12.51, 12.61$).

Discussion

It is of interest to assess these findings from three aspects: the relationship of the E and N findings to

TABLE V *Values of E and N for groups subdivided by aspects of religious practice*

Parameter		Values of E		Values of N		No. of cases
		Mean	S.E.	Mean	S.E.	
Religion	Anglican	12.96	0.49	8.30	0.59	71
	Catholic	12.91	0.48	9.68	0.53	66
	Other protestant	12.30	0.55	9.71	0.65	52
	Other	11.59	0.81	8.59	1.29	17
Church attendance	Yes	12.76	0.64	9.12	0.66	15
	Never	12.69	0.30	9.09	0.38	155
Regard religious beliefs	Seriously (intercourse)	13.53	0.54	9.38	0.85	34
	Not seriously (intercourse)	13.21	0.41	9.34	0.48	100
	Seriously (no-intercourse)	10.54	0.61	8.64	0.94	22
	Not seriously (no-intercourse)	12.22	0.60	8.38	0.65	50

TABLE VI *Values of E and N groups divided according to military and civil offences*

Offences		Values of E		Values of N		No. of cases
		Mean	S.E.	Mean	S.E.	
Civil	Yes	14.10	0.44	10.37	0.62	49
	No	12.27	0.32	8.70	0.38	157
Military	Nil	12.51	0.38	8.94	0.46	105
	1-5	12.61	0.43	9.28	0.49	92
	6 or more	15.00	0.70	9.00	1.41	9

the sociological parameters used, the relationship of these findings to those found by other workers, and the relationship of the results to those previously found for venereal disease patients.

(1) The overall mean values for extroversion and neuroticism ($E = 12.70$; $N = 9.10$) do not differ significantly from those quoted by Eysenck and Eysenck (1964) ($E = 12.07$; $N = 9.07$). The tendency to a higher extroversion score is consistent with their findings for an army group ($E = 13.18$; $N = 9.09$).

(2) Decreased extroversion and neuroticism with advancing age was also noted by Eysenck. He further noted increased neuroticism in the lower social strata and the present study tends to support this finding. However, the social strata used in the present study were obtained by classifying the parents of the participants rather than the participants themselves, one group of which (volunteer soldiers) all belonged to the same social stratum. The present findings, in this respect, should, therefore, be applied with reservations.

(3) Both Eysenck (1965) and Giese and Schmidt (1968) reported a positive association between extroversion and alcohol intake.

The group abstaining from alcohol is so small to make its absolute values meaningless, but results from a larger series of venereal disease patients indicate that teetotallers and social drinkers score almost identically for both extroversion and neuroticism.

In the present study, teetotallers and social drinkers emerge as a possibly homogeneous, personality group as distinct from heavier drinkers. These former groups show both low extroversion and low neuroticism scores. The latter groups have similar neuroticism scores which are significantly higher than those for teetotallers and social drinkers. For extroversion, however, there is a steady gradation with increasing scores associated with increasing alcohol intake.

Extroversion and neuroticism both showed consistent gradation, decreasing with increasing education, the trend for neuroticism being more significant than that for extroversion.

(4) The findings regarding religion suggest that church attendance in Vietnam was probably of little religious or sociological significance. They also suggest that most soldiers patronizing prostitutes did not have strong religious convictions, even if they claimed that this was the case.

(5) Both civil arrests and frequent military charges were associated with high extroversion scores, whereas civil arrests alone were related to increased neuroticism.

(6) Both Wells (1970) and Hart (1973) found a strong association of extroversion with venereal disease. The latter also showed a milder increase in neuroticism among venereal disease patients. The consistent pattern which emerges from the present study is that very similar trends in personality scores occur both with other forms of behaviour, often considered deviant, and with parameters which have previously been associated with venereal disease patients.

The Figure demonstrates this similarity in trends for venereal disease, alcohol intake, education, age, and military and civil offences. Thus increased extroversion is associated with venereal infection, increasing alcohol intake, decreasing education, decreasing age, and increasing numbers of military offences and civil offences. There is a general tendency for similar trends in neuroticism, although this is not marked for all parameters. Thus, increased incidence of venereal infection can be expected for those with scores in the high extroversion-high neuroticism quadrant of the graph.

These findings suggest that the relationship of certain sociological parameters to venereal infection may be of a secondary nature, in that all are primarily related to the personality of the individual. The precise relationship between clinical categories of personality and inventory findings is not critical to this argument. Without defining the actual personality, it is possible to say that certain broad personality types, which can be represented by particular inventory scores, are prone to certain behaviour, which is generally recognized as antisocial, resulting in infection with venereal disease, civil arrest, frequent military charges, and excessive alcohol intake. It is

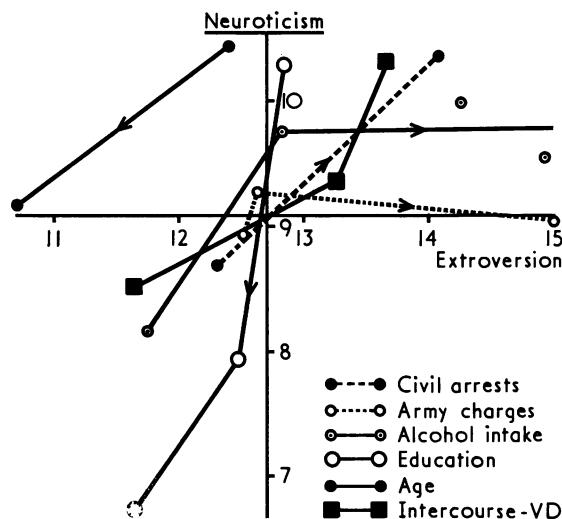


FIGURE Trends of extroversion and neuroticism for varying involvement in the prostitution-venereal disease environment compared with those for alcohol intake, education, age, military charges, and civil offences.

possible that further studies may produce similar findings for other behaviour patterns, *e.g.* drug dependence, delinquency, and criminal behaviour.

This further highlights the need to consider venereal disease as a behavioural problem, the control of which requires attention to the fundamental personality of the individual. Attempts to alter other parameters which also depend on personality may be inappropriate and meet with failure in that suppression of other symptoms of the problem may have no effect on its real cause.

Summary

The Eysenck personality inventory and a sociological questionnaire were presented to 230 randomly sampled soldiers, of sergeant's rank and below, in a war environment. 24 replies were discarded because of inadequate completion or an L score greater than 5, leaving 206 inventories and questionnaires for analysis.

The main findings were:

- (1) Decreased extroversion and neuroticism with advancing age and increased neuroticism in the lower social strata and those with less education.
- (2) Progressive increase in extroversion with increasing alcohol intake, civil arrests, and frequent military charges.

It is suggested that the relationship of certain sociological parameters to venereal infection may be of a secondary nature, in that all are primarily related to the personality of the individual. A graphical demonstration of the similarity between personality scores for these parameters and those for involvement in the environment of prostitution and venereal disease supports this hypothesis.

I am indebted to Lt.-Col. M. A. Naughton, OBE, Commanding Officer of the First Australian Field Hospital, for support with this work and to Major J. Collins, consultant psychiatrist, for continuing assistance with the project.

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Aspects sociaux des maladies vénériennes

II. Relation entre la personnalité et les autres déterminants sociologiques des maladies vénériennes.

On essaya d'obtenir des réponses à l'inventaire de la personnalité selon Eysenck et à un questionnaire sociologique auprès de 230 soldats choisis au hasard, du grade de sergent ou au-dessous, dans un environnement de guerre. 24 réponses furent écartées car remplies d'une façon inadéquate ou bien parce que le score L était plus grand que 5; il reste donc 206 inventaires et questionnaires pour l'analyse. Les constatations principales furent les suivantes:

- (1) Baisse de l'extraversion et des névroses avec l'âge et augmentation des névroses dans les couches sociales les plus basses et chez les sujets de moindre instruction.
- (2) Augmentation progressive de l'extraversion allant de pair avec l'augmentation de la consommation d'alcool, les arrestations lors de la vie civile, et la fréquence des missions militaires.

On suggère que la relation de certains paramètres sociologiques avec les maladies vénériennes puissent être d'importance secondaire et que tout est surtout fonction de la personnalité de l'individu. Une démonstration graphique de la ressemblance entre les scores de personnalité pour ces paramètres et ceux concernant l'implication de l'environnement de la prostitution et des maladies vénériennes est en faveur de cette hypothèse.